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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,854	03/29/2004	Peter F. Worrel	81098042CIP	2853

32242 7590 03/04/2005

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ANN ARBOR, MI 48104

EXAMINER

KRAMER, DEVON C

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 03/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/708,854

Applicant(s)

WORREL, PETER F.

Examiner

Devon C Kramer

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/29/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2) Claims 1, 3-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koga et al (5839800).

In re claims 1 and 10, Koga et al teaches a brake controller (5) for determining a desired rate of deceleration (9) from sensor outputs (15); a regenerative braking system (4) commanded by the brake controller to produce a braking torque corresponding to the desired rate of deceleration (col. 6 lines 48-55); a primary speed sensing system (15) for determining speed and deceleration of the vehicle, a deceleration sensor (15), a brake monitor (9) for receiving the sensor inputs from the operator and for determining an audit range of deceleration; a friction braking system (24) operational as claimed.

Please note that in column 6 lines 57-64, Koga et al cites that a combination of a speed sensor and pendulum sensor can be used to find the actual deceleration, but lacks the specific teaching of comparing the two values to a target deceleration. Please note that method in claim 10 is inherent to the design of Koga et al.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have compared both the deceleration values derived from both the speed

sensor and the pendulum sensor to a target deceleration value to keep tight control on the vehicle and to provide a back-up system in the event of a sensor failure.

In re claims 3-4, see col. 6 lines 57-64.

In re claim 5-6, it would be obvious to make the speed sensor or the pendulum sensor, the primary speed sensing system merely because they are functional equivalent of sensing deceleration and it would be a matter of design to which a person of ordinary skill in the art would desire as the primary sensor.

IN re claims 7-8, see element 11, 24 and please note that the accelerator pedal sensor is cited in Koga et al by operation of the motor. (Col. 5 lines 11-22)

3) Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koga et al (5839800) in view of Byrne et al (4094555).

In re claim 2, Koga et al lacks the teaching of comparing the output of the deceleration sensor with a lower and upper deceleration target.

Byrne et al teaches comparing the output of a decelerometer with an upper and lower deceleration target value.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have compared the deceleration sensor of Koga et al with an upper and lower target value in order to maintain control of the vehicle and increase stability.

4) Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koga et al (5839800) in view of Crombez et al (6655754).

In re claims 9 and 11, Koga et al lacks the teaching of a warning mechanism for a driver.

Crombez et al teaches the use of a warning indicator for a driver.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the brake system of Koga et al with a warning indicator as taught by Crombez et al in order to provide the driver with an indication that a failure may have occurred in the brake system insuring reliable operation of the brakes.

Conclusion

5) The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Konaga et al, Ohno et al, Soga, Hara et al, and Joyce all provide regenerative brake systems similar to the instant application.

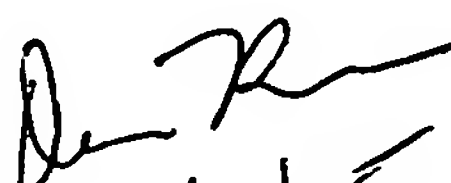
6) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devon C Kramer whose telephone number is 703-305-0839. The examiner can normally be reached on Mon-Fri 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3683

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DK


3/2/05